CASA GRANDE MUNICIPAL AIRPORT MASTER PLAN

CHAPTER 4 - DEVELOPMENT ALTERNATIVES

4.1 DEVELOPMENT ALTERNATIVES

The airport facilities defined in Chapter Three identify the facilities of the future for the Casa Grande Airport. The purpose of this chapter is to provide guidance to the City of Casa Grande in the development of these facilities. Several alternatives need to be considered to provide optimal solutions of the facility requirements envisioned in Chapter 3.

This chapter serves two purposes. First it identifies the developments necessary and provides the justification for those developments. Secondly, the event(s) that trigger or initiate the required development are identified, thus, a demand driven development plan results. This allows CGMA to rationally approach future capital improvement requirements based on the occurrence of specific trigger events and not necessarily an anticipated time frame.

4.2 NO DEVELOPMENT ALTERNATIVE

The consequences of no future development at CGMA must be considered in comparison of the costs and benefits between other development alternatives. This alternative would essentially involve maintenance of the airport at its current state without consideration of future growth to the operations at the airport.

The short term effect would not produce substantial change except the gradual deterioration of the airport infrastructure such as pavements, buildings and utilities. This would have a negative impact on the air transportation services experienced by the existing users and general public. The users would not see any effort toward the improvement of the facility and may potentially move to another airport with signs of life.

The long term effect could produce a negative impact to the community as it would be more difficult to attract a potential business that has connection to the airport. The potential for generating additional revenue for the City would also be diminished.

The "No Development Alternative" does not meet the needs and goals of the City of Casa Grande and Pinal County. Airport improvements are vital to the growth and economic stability of the area surrounding the airport. As a result of these considerations the No Development Alternative is discarded from further consideration in this document.

4.3 TRANSFER SERVICE TO ANOTHER AIRPORT

This alternative suggests the transfer of airport activity to another airport in the vicinity. The closest, convenient, general aviation airport is Eloy which is approximately 20 miles southeast. Eloy Airport does not have the facilities that currently exist at Casa Grande Municipal Airport and the transfer of aircraft and operations would create a void in the aviation system and compound the future growth problems in the area and at the Eloy Airport.

Therefore, transfer of facilities to another airport is not recommended as the preferred alternative.

4.4 NEAR-TERM PLANNED DEVELOPMENT

Table 4.1 illustrates the development item by priority and the action mechanism required to initiate the action to begin development.

TABLE 4.1

PRIORITY	ITEM	ACTION MECHANISM
1	Pilot Support Facility Beacon Upgrade Apron Expansion Auto Parking Expansion	Safety/Separation, ADEQ New Pilot Support Facility New Pilot Support Facility New Pilot Support Facility
2	Runway Extension Environmental Analysis Land Acquisition Design Construction	Based Aircraft Requirements Short Term Priority Intermediate Priority Completion of EA
3	Hangar Expansion Phase Expansion a. Design b. Construction	Validation of Wait List 80% Occupancy 100% Occupancy
4	Perimeter Fencing Phase I Phase II	New Pilot Support Facility Funding Resources (Combined with land Acquisition)

4.5 PRIORITY # 1

4.5.1 PILOT SUPPORT FACILITY

The justification for the development of a new terminal building or pilot support facility building, is based on the needs of the traveling public as passengers or pilots. The current building requires substantial remodeling to provide adequate space and an environment that attract pilots to use the facility.

The new terminal includes a pilot briefing room, conference room, restrooms and a small office for airport management personnel and other revenue generating source facilities such as a restaurant and FBO counter space. The total estimated size of the building will be 3000 square feet.

Several items should be completed in conjunction with the new terminal. Additional fencing should be completed including a security gate at Taxiway C. The apron in front of the new terminal should be expanded to the west beyond Taxiway C and connect with the existing apron where the shade hangars are located. Additional tiedowns need to be identified.

The need for the terminal is triggered by the demand on the existing facility, which is evident at the present time. The new terminal should be the first priority at the airport.

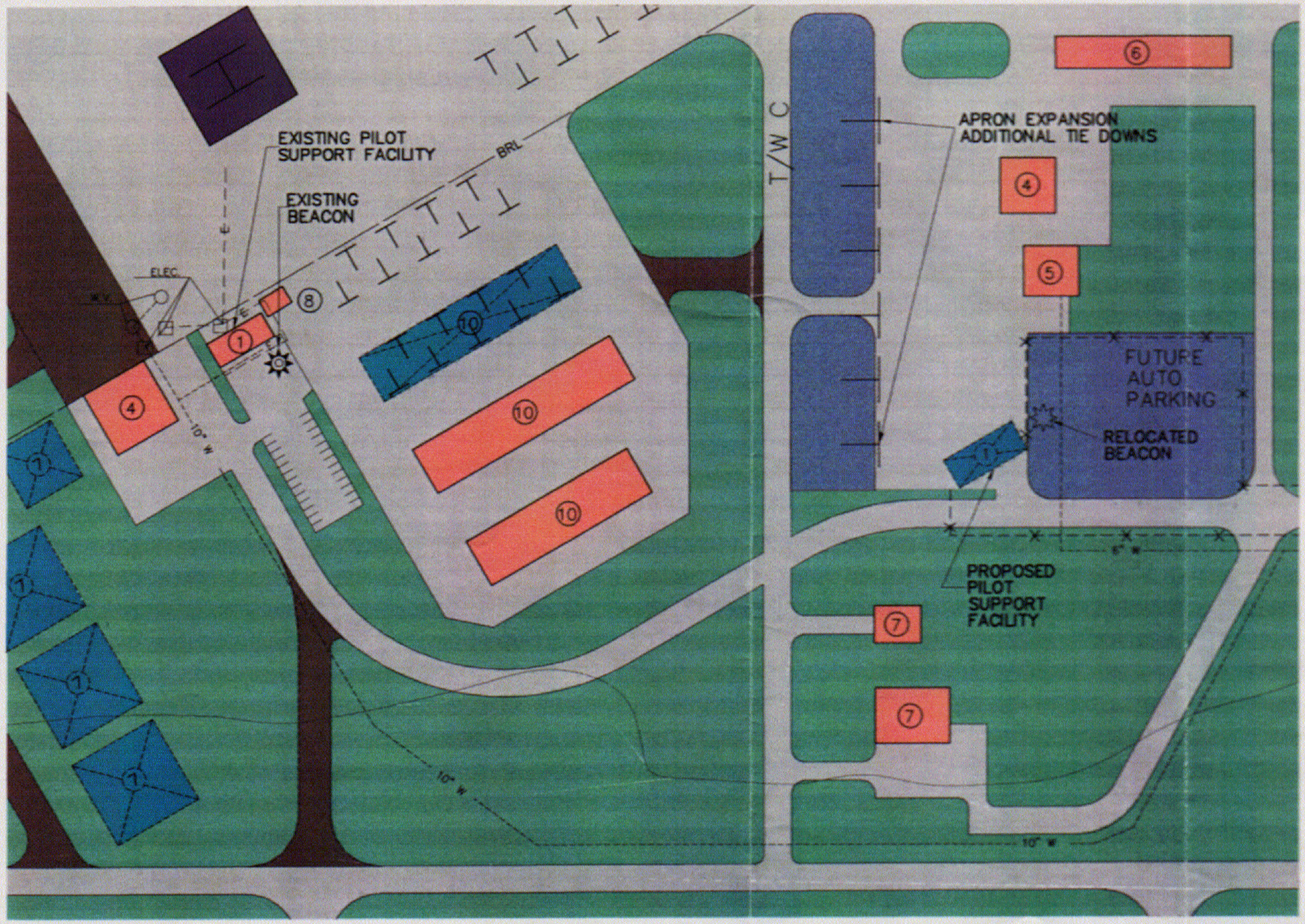
4.5.2 BEACON UPGRADE

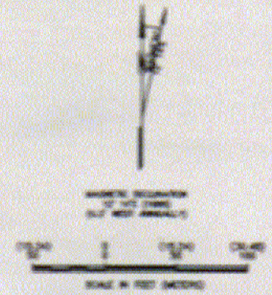
The existing beacon is located just behind the old terminal building and is very old. Along with the relocation of the pilot support building the location and condition of the beacon should be review for relocation. The relocation of the beacon is recommended to occur at the same time as the construction of the new pilot support building.

4.5.3 APRON EXPANSION

The apron area north of the new pilot support building should be reconstructed to improve aircraft access and aircraft parking. Several unpaved islands next to Taxiway C would need to be paved along with unpaved areas west of Taxiway C near the shade hangars. These additional paved areas would provide aircraft tiedown areas for itinerant aircraft and short term tiedowns.

Reconstruction of the apron area in front of the new pilot support facility should be completed in conjunction with the new building.





LEGEND		
EXISTING	ULTIMATE	DESCRIPTION

LEGEND		
EXISTING	ULTIMATE	DESCRIPTION

BUILDINGS/FACILITIES		
EXISTING	ULTIMATE	DESCRIPTION

CASA GRANDE MUNICIPAL AIRPORT

CASA GRANDE, ARIZONA

PRIORITY #1 PROJECTS

Morrison Maierle/CSSA

ENGINEERS
SURVEYORS
PLANNERS
SINCE 1945

4.6 PRIORITY #2

4.6.1 RUNWAY EXTENSION

The largest project within this study period is the development of a 3,340 foot extension to the west on Runway 5. The most significant hurdle to proceeding with this project, is the justification of need. The City must first provide evidence that a larger and more demanding critical aircraft would be operating out of CGMA with at least 500 operations per year. In most cases, the aircraft would probably have to be based at the airport to achieve the required 500 annual operations.

Providing the justification could be attained, several items in the development process would need to be completed prior to the actual construction of the runway, these are:

- Environmental Assessment (EA). The EA is required to provide evidence that the development would meet FAA environmental requirements and not manifest any significant impacts to the surrounding area. Some items of major concern are noise, threatened and endangered species, cultural resources, wetlands, biotic communities, social impacts, socioeconomic impacts, water and air quality.

  Prior to continuing the development of the runway extension, the FAA must issue a Finding of No Significant Impact (FONSI) based on the findings of the EA. If however, the impacts are too severe for this to happen, an Environmental Impact Statement may be required.

- Land Acquisition. Generally the EA needs to be completed prior to proceeding with land acquisition. However; in some cases particularly when no environmental concerns are immediately manifest, this may be conducted simultaneously to accelerate the development schedule.

- Design. The development of the construction documents usually follows the land acquisition phase, but could also be completed during the land acquisition phase.

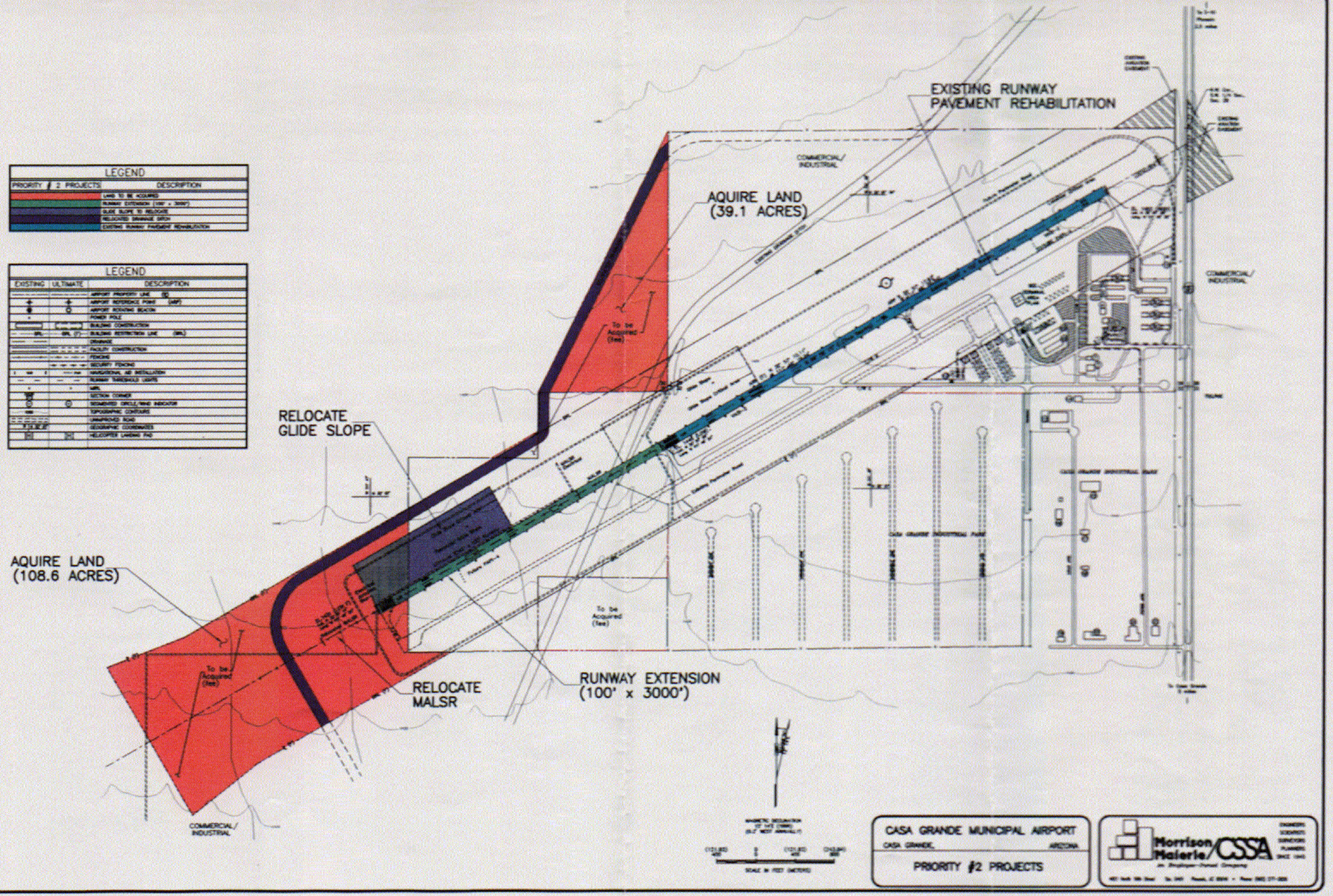
- Construction. The construction of the runway extension would be coordinated and scheduled to meet the availability of State and Federal funding.

4.7 PRIORITY # 3 HANGAR EXPANSION

The need for additional hangars is evident at this time. Twelve users have indicated their desire for hangar space. However, of those waiting for a hangar, how many are waiting for a new hangar, and are they willing to pay a higher rent to help in the development of new hangars. Because the need for new hangars is current, these questions must be addressed as the concept develops to design and ultimate construction.

LEGEND	
PRIORITY # 2 PROJECTS	DESCRIPTION
	LAND TO BE ACQUIRED
	RUNWAY EXTENSION (100' x 3000')
	GLADE SLOPE TO RELOCATE
	RELOCATED DRAINAGE DITCH
	EXISTING RUNWAY PAVEMENT REHABILITATION

LEGEND		
EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE (ALP)
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		POWER POLE
		BUILDING CONSTRUCTION
BRL	BRL	BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
		SECURITY FENCING
		NAVIGATIONAL AID INSTALLATION
		RUNWAY THRESHOLD LIGHTS
		MARK
		SECTION CORNER
		SEGMENTED CIRCLE/WIND INDICATOR
		TOPOGRAPHIC CONTOURS
		UNIMPROVED ROAD
		GEOGRAPHIC COORDINATES
		HELICOPTER LANDING PAD



CASA GRANDE MUNICIPAL AIRPORT

CASA GRANDE, ARIZONA

PRIORITY #2 PROJECTS

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BUILDINGS/FACILITIES

EXISTING	ULTIMATE	DESCRIPTION
1	1	ADMINISTRATION/TERMINAL BUILDING
NA	NA	AIR TRAFFIC CONTROL TOWER (ATCT)
NA	NA	AIRPORT RESCUE/FIRE FIGHTING (ARFF)
4	4	FIXED BASE OPERATION HANGAR
5	NA	CONVENTIONAL HANGAR
6	6	T-HANGAR
7	7	CORPORATE HANGAR
8	NA	UNDERGROUND FUEL STORAGE FACILITY
NA	9	FUEL FACILITY
10	10	SPACE HANGAR
11	NA	FIRE TRAINING FACILITY
12	NA	INDUSTRIAL PARK BUILDING
13	NA	ELECTRICAL BUILDING
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LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE (TYP)
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		POWER POLE
		BUILDING CONSTRUCTION
		BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
		SECTION CORNER
		TOPOGRAPHIC CONTOURS
		UNIMPROVED ROAD
		SECURITY FENCE

LEGEND

PRIORITY # 3 PROJECTS	DESCRIPTION
	HANGER ACCESS TAXIWAY
	T HANGER CONSTRUCTION

Existing 5000' x 100' Runway

T/W B

T/W C

T/W E

T/W H

HANGER ACCESS TAXIWAY

T HANGER CONSTRUCTION

Taxiway

PIONEER ROAD

MAGNETIC DECLINATION 13° 14' EAST (1988) (0.2° WEST ANNUALLY)

SCALE IN FEET (METERS)

CASA GRANDE MUNICIPAL AIRPORT

CASA GRANDE, ARIZONA

PRIORITY # 3

Morrison Maierle/CSSA

The action mechanism for hangar development would be to begin planning and design of the next phase of hangars when the available hangar space is 80% of capacity. For example, if the City were to construct a new 10 unit t-hangar and at the time of construction 6 units were leased, the next set of hangars would begin design when 8 units were leased. At the time when the last hangar was leased, the City would be ready to construct another unit when financial arrangements could be made.

Utilizing the Arizona Department of Transportation grant and loan program, the hangars could be built utilizing the money available. If the terms of the loan are such that the rent of the hangar space would pay for the loan over the term of the loan, there would be a benefit to borrowing the money to construct the hangar.

Another option to consider would be to raise all of the hangar fees enough to recover the amount of the payments on the loan for the new hangars. This would make all hangar rentals equal and yet provide enough additional revenue to meet the loan requirements. These options are discussed in more detail in Chapter 5 - Financial Plan.

4.8 PRIORITY # 4 SECURITY FENCING

As previously discussed in Chapter 3, the airport needs to have improved fencing to provide a more safe operating environment for both airside and landside traffic. The first phase of the fencing should be completed in and around the entrance road to the new pilot support building. The fencing should clearly delineate the airside aircraft operations area (AOA) from the landside public and vehicle access areas.

The second phase of a security and property boundary fence should be completed as funding allows and should be included with FAA AIP eligible projects such as land acquisition and other development projects in phased steps until completed.

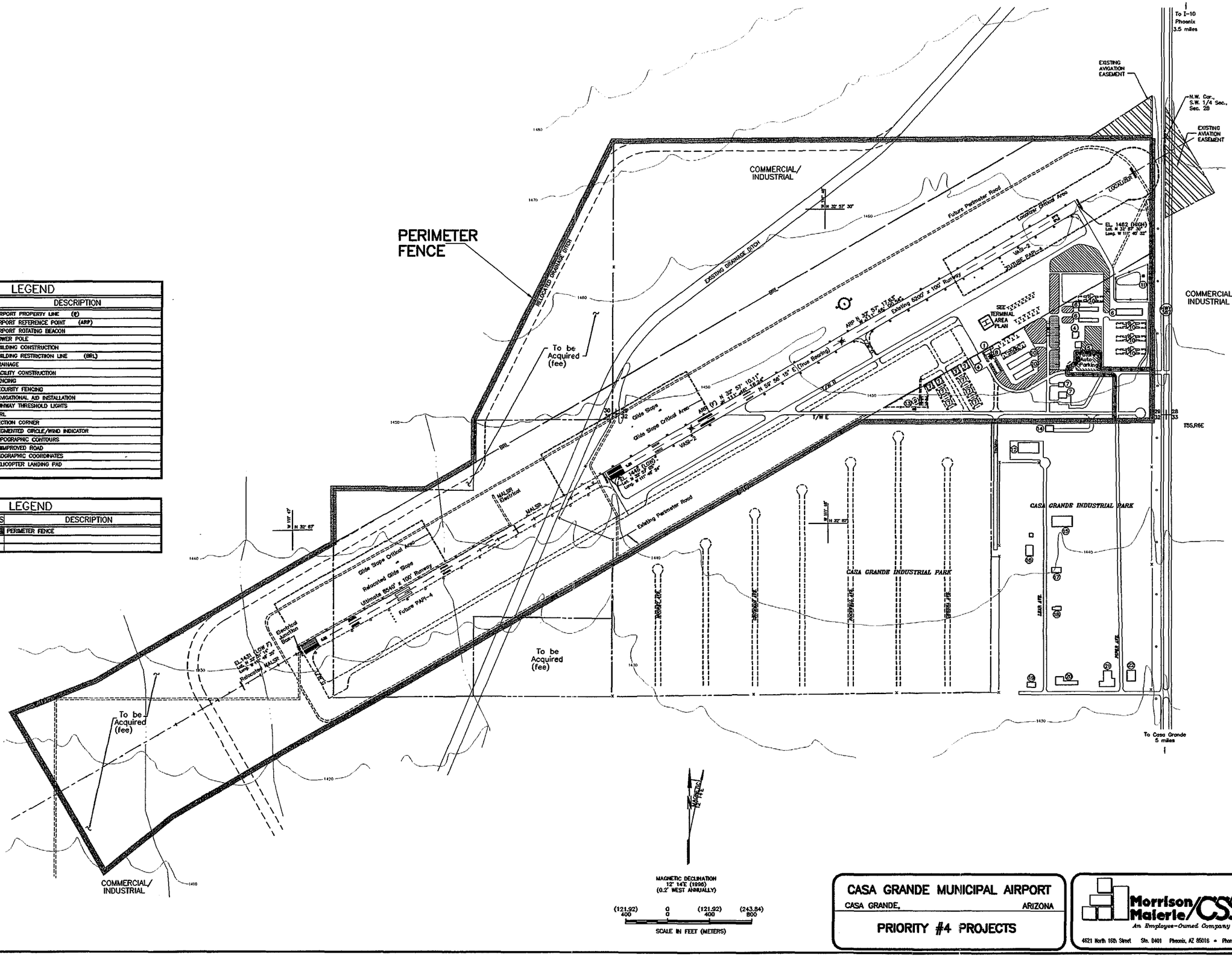
4.9 OTHER ALTERNATIVES

The 1995 Arizona State Aviation Needs Study (SANS) listed development alternatives based on phased development, Phase I (0-5 years), Phase II (6-10 years) and Phase III (11-20 years). The major items in Phase I, included the runway and taxiway extension including land acquisition, fencing and pavement maintenance. Phase II included a new terminal, a new FBO apron, and pavement maintenance. The major items in Phase III were a terminal addition, widening of the taxiway, and pavement maintenance. Many of the smaller cost items listed in the SANS report could be included with the major projects which would optimize the construction dollars.

The Capital Improvement Plans (CIP) on file with ADOT for the last two years are as follows:

LEGEND		
EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE (#)
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		POWER POLE
		BUILDING CONSTRUCTION
BRL	BRL (F)	BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
		SECURITY FENCING
		NAVIGATIONAL AID INSTALLATION
		RUNWAY THRESHOLD LIGHTS
		MIRL
		SECTION CORNER
		SEGMENTED CIRCLE/WIND INDICATOR
1000		TOPOGRAPHIC CONTOURS
		UNIMPROVED ROAD
		GEOGRAPHIC COORDINATES
H	H	HELICOPTER LANDING PAD

LEGEND	
PRIORITY # 4 PROJECTS	DESCRIPTION
	PERIMETER FENCE



CASA GRANDE MUNICIPAL AIRPORT

CASA GRANDE, ARIZONA

PRIORITY #4 PROJECTS

Morrison Maierle/CSSA INC.
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SCIENTISTS
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ADOT 1995 CAPITAL IMPROVEMENT PLAN		
YEAR	ITEM	AMOUNT
1995-1996	New Terminal	$200,000
1996-1997	Environmental Assessment & Land Acquisition	$568,050
1997-1998	Grade, Drain, Surface Runway &Taxiway Extension Surface Apron	$3,650,000

ADOT 1996 CAPITAL IMPROVEMENT PLAN		
YEAR	ITEM	AMOUNT
1998	Environmental Assessment & Land Acquisition	$650,950
1999	Grade, Drain, Surface Runway and Taxiway Extension MIRL, MITL, Surface Apron	$3,663,000

The Arizona Department of Transportation has programmed the pilot support facility into the financial program, along with the planned runway extension, beginning with the environmental assessment and land acquisition as shown above.

4.10 LONG TERM DEVELOPMENT

Long term development in this report refers to the items of development that may occur after the first four priority items have been completed. However, items in the first four priorities may redevelop after the majority items have been completed, such as hangars. Hangar development should be viewed as a long term commitment to the steady growth at the airport. The City should develop a separate fund and growth account to provide steady revenue to the development of hangar and apron space.

A similar matrix has been developed for long term development plans for the airport. The key aspect of review of this matrix is that a demand driven planning effort makes the long term plan more flexible to the changes that occur on the airport and in the community. These items may change in priority and be moved ahead or back depending on the trigger mechanisms that occur.

TABLE 4.4		
PRIORITY	ITEM	ACTION MECHANISM
Not Specific	Cargo apron and related facilities	Interest and Commitment from Cargo Operator
Not Specific	Commercial Air Service Facilities	Interest and Commitment from Commercial Airlines
Not Specific	Increased Size of Runway and Dimensional Criteria	Change in Critical Aircraft to a Larger Size.
Not Specific	Pavement Maintenance	Continuous Updates to Pavement Maintenance Plan

4.11 SUMMARY

The reports used in support and reference of the Master Plan Update, coincided with the recommendations of this report and provided additional justification to the planned needs of the Casa Grande Municipal Airport. The development alternatives explored in this Chapter represent those items considered necessary to continue and enhance air service at CGMA. These alternatives include consideration of doing nothing further, transfer of the service to adjacent airports and lastly making the various improvements described herein. These improvements represent, in our judgement, the optimal balance between the desire to grow ("if you build it, they will come") and, the realities of the requirements, needs and capacity of CGMA. Chapter 5, which follows, examines the financial aspects of the development alternatives described.